	Application No.	Applicant(s)
Notice of Allowability	09/767,323	SANDERS, LESTER
	Examiner	Art Unit
	Samuel Broda	2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Applicant's Amendment mailed on 1 July 2004.*

2. ☒ The allowed claim(s) is/are *1-13,16-19 and 21-24.*

3. ☒ The drawings filed on *22 January 2001* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
      Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

SAMUEL BRODA, ESQ.
PRIMARY EXAMINER

1.   This communication is in response to Applicant's Amendment mailed on 1 July 2004.

Claims 1 and 16-17 were amended; claim 20 was canceled. Claims 1-19 and 21-24 are pending.

Examiner's Amendment

2.1   An Examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to Applicant, an amendment may be filed as provided by 37

CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than

the payment of the issue fee.

This Examiner's amendment corresponds to the cancellation without prejudice of two

claims in response to the restriction of claims as described below. Authorization for this

Examiner's amendment and election without traverse of the claims of Group I was given in a

telephone conversation with Mr. Keith Chanroo, Reg. No. 36,480, on 23 November 2004.

2.2   The application has been amended as follows:

Cancel claims 14-15.

Election/Restriction

3.   As the claims are presented, restriction to one of the following inventions is required

under 35 U.S.C. 121:

I.   Claims 1-13, 16-19, and 21-24, drawn to methods to determining dynamic power

dissipation in at least a portion of an integrated circuit based a circuit simulation,

classified in class 703, subclass 14.

II.   Claims 14-15, drawn to a signal bearing medium containing a program that when

executed automatically generates and annotates power dissipation code, classified

in class 702, subclass 57.

3.1   Inventions I and II are related as combination and subcombination. Inventions in

this relationship are distinct if it can be shown that (1) the combination as claimed does not

require the particulars of the subcombination as claimed for patentability, and (2) that the

subcombination has utility by itself or in other combinations (MPEP § 806.05(c)).

In the instant case, the combination as claimed does not require the particulars of the

subcombination as claimed because the combination does not require the automatic generation

and annotation of power dissipation code.

The subcombination of Group II has separate utility such as the automatic generation and

annotation of power models that can be ported to separate integrated circuit models and

simulation configurations.

Reasons for Allowance

4.   The following is an Examiner's statement of reasons for the indication of allowable

subject matter:

The closest prior art of record shows:

(1) a method for simulating operation of at least a portion of an integrated circuit for determining dynamic power dissipation (Eisenmann et al, "Power Calculation for High Density CMOS Gate Array's");

(2) generation of an RTL circuit described in an HDL after power consumption is minimized (Hamada et al, U.S. Patent 6,493,863); and

(3) dynamic power calculations using a count of switching transitions and sample period time (Rodnunsky et al, "Power Estimation of CMOS Circuits via Power Software").

4.1   Applicant's first set of claims consists of claims 1-9.

Independent claim 1 is directed to a method of simulating operation of at least a portion of an integrated circuit for determining dynamic power dissipation. This claim identifies the distinct steps of: "providing parameters, other than frequency, for determining dynamic power dissipation of the at least one node," "dividing the activity factor by sampling time, which is a fraction of simulation time, to obtain the frequency," and "calculating dynamic power dissipation for the at least one node."

Because the closest prior art does not appear to teach or suggest the determination of a frequency based on a fraction of simulation time and used to calculate dynamic power dissipation, claims 1-9 are deemed allowable.

4.2   Applicant's second set of claims consists of claims 10-13.

Independent claim 10 is directed to a method for determining dynamic power dissipation. This claim identifies the distinct steps of: "generating power dissipation code using at least a portion of the model and the power characteristic data," "simulating operation of the integrated circuit with the simulator in response to the annotated model and to the signal generating code," and "determining dynamic power dissipated by the integrated circuit under simulated operation using the annotated model."

Because the closest prior art does not appear to teach or suggest the combination of steps of generating power dissipation code based on power characteristic data followed by simulation of the integrated circuit to determine the dynamic power dissipated, claims 10-13 are deemed allowable.

4.3   Applicant's third set of claims consists of claims 16-19.

Independent claim 16 is directed to a method of determining dynamic power dissipation. This claim identifies the distinct steps of: "counting transitions for each of the nodes when going from one of the states to another of the states," "determining dynamic power dissipated at each of the nodes," and "d wherein the dynamic power dissipated is determined prior to ending a simulation of the integrated circuit."

Because the closest prior art does not appear to teach or suggest the combination of steps of determining dynamic power dissipated during a circuit simulation based on the node transitions, claims 16-19 are deemed allowable.

4.4   Applicant's fourth set of claims consists of claims 21-24.

Independent claim 21 is directed to a method for determining dynamic power dissipation. This claim identifies the distinct steps of: "generating power dissipation code using a portion of the model and the power characteristic data," "simulating operation of the integrated circuit with the simulator in response to the model and to the signal generating code," and "determining dynamic power dissipated by the integrated circuit under simulated operation using the annotated signal generating code."

Because the closest prior art does not appear to teach or suggest the combination of steps of generating power dissipation code based on power characteristic data followed by simulation of the integrated circuit to determine the dynamic power dissipated, claims 21-24 are deemed allowable.

5.   Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6.   Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samuel Broda, whose telephone number is (571) 272-3709. The Examiner can normally be reached on Mondays through Fridays from 8:00 AM – 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska can be reached at (571) 272-3716. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the group receptionist, whose telephone number is (571) 272-2100.

SAMUEL BRODA, ESQ.
PRIMARY EXAMINER